UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,332	08/23/2006	Edouard Francois	PF040032	8332

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-11* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-11* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☒ All   b) ☐ Some * c) ☐ None of:

         1. ☒ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Response to Arguments

1.   Applicant's arguments filed April 4, 2011 have been fully considered but they are

not persuasive.

For claim 1, on pg. 12-14 of the applicant's arguments, the applicant states that

Ye fails to teach a coding scheme which controls the complexity of the spatial

interpolation filters used for motion estimation depending on a decoding scenario or a

temporal decomposition level by use of a motion configuration choice circuit.

Ye teaches in [0030], "the use of a discrete MCTF unit for each sub-band allows

the motion compensated temporal filtering process to be tailored for each sub-band

independently of the other sub-bands. In addition, the temporal filtering process for a

particular sub-band may be based on different criteria." Also, in [0034], Ye teaches "In

order to maximize the performance of the motion estimation and MCTF, independently

optimized interpolation filters with a different tap can be used for each subband." The

examiner notes that the complexity of the filter will vary depending on the temporal

decomposition level. In addition, Ye teaches the MCTF applies to a coding scheme

([0012]). In regards to a motion configuration choice circuit, this limitation was not

claimed at the time of the first rejection.

For claims 3, 5, 6 and 8, on pg. 15 paragraph 3, the applicant states that all

remaining claim which are dependent upon claims 1 and 4 are patentably distinct in

view of the arguments set forth for claims 1 and 4. The rejections for claims 3, 5,6, and

8 are upheld.

For claim 4, on pg. 15 paragraph 2 of the applicant's arguments, the applicant

states that Ye fails to teach the motion estimator determines the operating conditions

associated with the motion estimation or determine the configuration of the motion

compensation in the manner recited in claim 4.

Ye teaches the motion estimator determines the operating conditions ([0035],

"the temporal filtering is performed per sub-band (resolution)". And [0036]; temporal

filtering direction is chosen by the resolution of the sub-bands, which is determined by

the emotion estimator"). In regards to a "first motion configuration choice circuit" or a

"second motion configuration choice", these limitations were not claimed at the time of

the first rejection

2.   In response to applicant's argument that there is no teaching, suggestion, or

motivation to combine the references, the examiner recognizes that obviousness may

be established by combining or modifying the teachings of the prior art to produce the

claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.

1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR*

International Co. v. Teleflex, Inc., 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case,

For claim 2, on pg. 16 paragraph 3 of the applicant's arguments, the applicant

states that the secondary reference, Hallapuro, fails controlling the complexity of the

interpolation filter used for motion compensation.

Hallapuro teaches varying amounts of interpolation filter coefficients (col. 11-20).

Since Hallapuro does not disclose choosing the amount of coefficients based on a

decoding scenario or a corresponding decomposition level, Hallapuro was used in

conjunction with the primary reference, Ye, who teaches varying the interpolation filter

based on the temporal decomposition level, the motivation being enhanced interpolation

of the encoded data.

For claims 7 and 9, on pg. 16 paragraph 3 of the applicant's arguments, the

applicant states that the secondary reference Hallapuro fails to teach a motion

configuration choice and determining the accuracy of the motion computed by the

motion configuration choice circuit based on the temporal decomposition level.

Hallapuro discloses a circuit for choosing an interpolation filter to be used (Fig. 6

(640) and (650), Fig. 7 (750), Fig. 8 (840) and col. 11, lns. 57-62). Since Hallapuro

does not disclose choosing an interpolation based on a temporal decomposition level,

the circuit taught by the Hallapuro reference was used in combination with the Ye

reference.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the
United States before the invention thereof by the applicant for patent, or on an international application

by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4.   Claims 1-11 are rejected under 35 U.S.C . 102 (e) as being anticipated by Ye et al. (US2006/00080000).

Regarding **claims 1, 4, and 7**, Ye et al. discloses a decoding method of a picture sequence coded with spatial and temporal scalability (see pg. 1, [006], lines 44-49), the coded data comprising motion information (see pg. 1, [006], lines 44-49), comprising a hierarchical temporal synthesis step carrying out a motion compensated temporal filtering, or MCTF (see pg. 1, [006], lines 44-49) , of pictures at a frequency decomposition level, from the motion information, to provide pictures at a lower decomposition level (see pg. 1, [0012], lines 32-35), wherein the hierarchical temporal synthesis step comprises a motion estimation step using spatial interpolation filters ([0034] lns. 6-8) and wherein, during a motion compensated temporal filtering operation, the resolution chosen for the use of the motion information and the complexity of the spatial interpolation filters used for the motion estimation depend on the temporal

decomposition level corresponding to the pictures ([0030], lines 64-69 and [0034]; "In order to maximize the performance of the motion estimation and MCTF, independently optimized interpolation filters with a different tap can be used for each subband").

Additionally, Ye discloses a coding method comprising a hierarchical temporal anaylsis step and the motion estimation step comprises a first motion configuration choice for determining operating conditions of the motion estimation according to different decomposition levels of pictures received from the hierarchical temporal analysis step ([0034]; "In order to maximize the performance of the motion estimation and MCTF, independently optimized interpolation filters with a different tap can be used for each subband") comprises performing a motion compensation and further comprises a second motion configuration choice for determining a configuration of the motion compensation according to the decomposition levels of the pictures ([0036]; the choice of forward or backward prediction is made based on the temporal decomposition level)

Regarding **claims 2 and 10**, Ye discloses the number of coefficients of the spatial interpolation filter used for the motion compensation depends on the temporal decomposition level ([0034], lns. 6-8).

Regarding **claims 3 and 11**, Ye et al. discloses a method according to claim 1, wherein the hierarchical temporal synthesis step is a decoding of wavelet coefficients with motion compensated filtering (see Fig. 1, block 110 and Fig. 5, block 450).

For **claim 5**, Ye et al. discloses the step of motion estimation computed between two pictures at a given level of decomposition to perform the motion compensation and wherein the operating conditions of the motion estimation comprise a computation accuracy (see pg. 3, [0037], lines 31-37 and [0048]; "The interleaving process of the present invention enables the IBM-CTF method of the present invention to provide sub-pixel accuracy motion estimation and compensation").

Ye teaches that the size of the group of frames (GOFs) can be determined adaptively per sub band. One with ordinary skill in the art can infer that the motion compensation computation between the pictures within the GOFs will become more or less complex as the size of the GOFs increases or decreases.

Regarding **claim 6**, the limitations of claim 6 are rejected in the analysis of claim 3, and claim 6 is rejected on that basis.

Regarding **claim 8**, the limitations of claim 8 are rejected in the analysis of claim 4, and claim 8 is rejected on that basis.

Regarding **claim 9**, the limitations of claim 9 are rejected in the analysis of claim 5, and claim 9 is rejected on that basis. The examiner notes that the computation accuracy of the motion estimation is determined by the MCTF circuits (130a-c) depicted in figure 1.

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)270-7579. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571)272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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